



October 24, 2014

Jason Hassrick, Ph.D.
Bay-Delta Office
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VIA ELECTRONIC MAIL

Re: Proposal to Revise the Delta Smelt CSI and Adult ITL Calculation

Dear Dr. Hassrick:

Thank you for inviting our comments on the proposal to modify the Cumulative Salvage Index ("CSI") calculation and Incidental Take Limit ("ITL") for adult delta smelt in the 2008 delta smelt biological opinion being offered by the Metropolitan Water District of Southern California ("MWD"). NRDC, The Bay Institute, and others attended the presentation by MWD on October 9th organized by the Bureau of Reclamation. Per your request, we are providing some initial feedback on the presentation, although we are unable to provide a more detailed review because of the Bureau's denial of our request to extend the comment period on the Upper San Joaquin River Basin Storage Investigation DEIS.

In general, we do not believe the proposed methodologies and calculations should be adopted because they do not appear to represent "advances in statistical models, data sources, [or] overall improved knowledge of entrainment dynamics" as suggested in the summary of the proposal. Moreover, the proposals would result in far less protection for the species than embodied in the current ITL, and therefore do not meet Reclamation's goal (or the ESA's requirement) for an approach that is adequately protective of the species.

It is important to segregate the two distinct proposals: (1) revising the ITL limit for adult delta smelt; and (2) revising the CSI calculation. Each presents a distinct set of issues and challenges.

I. There Is No Scientific or Legal Justification for Revising the ITL as Proposed by MWD

MWD has, and continues to, levy extensive arguments in court against the ITL and related management recommendations contained in the 2008 delta smelt BiOp, including arguments about the CSI calculation, ITL calculation, and related OMR flow limits. MWD has lost these arguments, and there is currently no requirement for the agencies to revisit this carefully devised, peer reviewed, and

interwoven management regime, particularly without addressing delta smelt needs more comprehensively, including the need for increased outflow. While advancements in reliable and relevant science and data can and should inform the existing management regime, MWD has failed to demonstrate that its proposal is based on reliable and relevant new science and data. Nor is MWD's approach lawful under the Endangered Species Act ("ESA").

In fact, MWD's ITL proposal, based on an "80% Upper Prediction Interval," appears wholly untethered to the abundance or population status of the delta smelt, which continues to hover at historically low levels, and is justified solely on the basis of reducing the amount of time the Projects would be likely to exceed the proposed take limit. As stated in MWD's July 29, 2014 "Proposal for a Revised ITL and Expected Take for Adult Delta Smelt," the 80% Upper Prediction Interval "provides a point at which salvage has become higher than what we would normally expect, rather than merely higher than average." We agree with the comments of Dr. Ken Newman that this approach "does not provide any measure of population level effects on Delta Smelt." While the scientific community currently lacks a valid and reliable estimate of the delta smelt's population, the approach used in the current ITL calculation has been recognized as the best available proxy for population that currently exists, and, indeed, was the approach vociferously advocated by MWD and others in court to represent population-based impacts.

The 2008 BiOp also correctly recognizes that the current population status of delta smelt is so low that it cannot tolerate salvage anywhere near historical levels or "what we would normally expect." While MWD cites to NMFS' approach for assessing marine mammal stocks, MWD's interpretation wholly misrepresents that approach, and such an approach is inapplicable to the ESA context. For instance, the Fish and Wildlife Service ("FWS") and numerous independent scientific publications and peer reviews recognize that the adult delta smelt population is essentially density independent, which justifies a far more stringent reduction in take of adult delta smelt. MWD's approach ignores the density independent nature of delta smelt population dynamics. Moreover, salvage is universally recognized as a coarse measure and significant underestimate of the actual amount of take to the species caused by entrainment due to Project operations. These considerations suggest that should Reclamation propose to use an approach similar to what MWD has offered, using the 20th percentile would be far more reflective of the species' needs in light of its highly-imperiled status, the ESA's mandates, and the consistent underestimate of Project-caused mortality provided by use of salvage.

For all these reasons, MWD's arbitrary "80% Upper Prediction Interval," which unsurprisingly yields a far higher take limit as compared to the current ITL, does not reflect the best scientific approach or meet legal requirements. MWD fails to offer a range of ITL values that would be generated under its approach if a more protective 20% percentile threshold were selected, or even the median 50% percentile value that would be generated under its proposed approach. We urge Reclamation and FWS to estimate the ITL under at least the median and 20% thresholds to present a range of options that

would be more reflective of the needs of the species than the approach advocated by MWD, should Reclamation and FWS decide to pursue this flawed approach.

II. The Revised CSI Calculation Lacks Sufficient Justification and Support

The summary presentation of the revised CSI calculation proposal fails to address a number of factors that will be critical in determining its validity. We urge Reclamation and FWS to require additional explanation and detail on these factors to enable a fuller assessment of the proposal.

First, unlike the proposals from MWD, the existing CSI value and incidental take statement used in the 2008 biological opinion is related to estimated population level impact of entrainment. FWS estimates that the chosen CSI values generally equate to 5% of the population using Kimmerer's equation, concluding that,

However, regressing the Kimmerer (2008) estimates against the CSI approach in order to make this comparison ($y = 0.4539x + 1.8905$; $r^2 = 0.9105$) yields an expected take under implementation of the RPA defined herein approximating delta smelt population level losses during the adult lifestage to around 5 percent. The concern level would roughly approximate salvage of 4 percent of the adult pre-spawning population.

Biological Opinion at 387. This is a significant flaw in the MWD approach, and one of the key criticisms that Dr. Newman identified in assessing MWD's approach.

Second, the MWD approach does not appear to be consistent with implementation of the biological opinion and RPA, and thus the CSI values would significantly overestimate salvage and take of delta smelt in those years, and therefore significantly overestimate CSI values under the RPA. It appears that MWD's approach models only the "first flush" element of the RPA and a -5,000 cfs OMR limit. See Page 15 of revised proposal and page 2 of July 2014 proposal. However, the biological opinion explicitly recognizes that OMR restrictions will be substantially more constrained than -5,000 cfs OMR, particularly in years of low abundance. See biological opinion at 352-355.

In addition, during the presentation, Mr. Fullerton explained that the input values were not based on actual measured daily OMR values (though such data exists), but rather on calculated values provided by Paul Hutton. When asked the basis for this approach, Mr. Fullerton simply replied that Mr. Hutton had told him to use those values.

As Reclamation is aware, Mr. Hutton's method of calculating OMR flows does not precisely track actual OMR values. The agencies have been comparing the variation in those values for at least the past year, and should use that information, as well as analyses of Mr. Hutton's approach, to assess whether the use of these values presents an inherent bias in the proposed CSI calculation. Further, the agencies

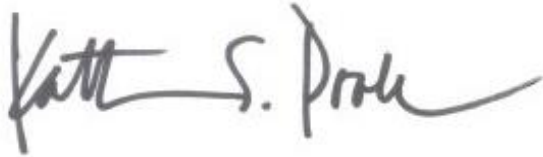
should analyze the need for the use of this calculated input, as opposed to actual measured data. The modeling presented appears to show a poor fit between modeled salvage and historic salvage. See page 15. This suggests significant problems with the approach.

There are likely other inputs that may similarly bias the model output that cannot be ascertained from the summary information presented during this proceeding. We urge the agencies to identify all of those inputs and assess their effect on the model's output and accuracy.

Finally, we note that MWD has not justified its proposed use of an equation derived from a historical relationship as a predictive and regulatory tool in the highly modified and changing environment of the Delta. For example, delta smelt numbers have declined precipitously during the period used to calculate the proposed CSI, which also encompasses the years of the pelagic organism decline. There is no information that the relationship derived during that historic period remains valid in today's environment of much reduced delta smelt abundance.

Thank you for the opportunity to comment. Please contact us with any questions or concerns.

Sincerely,

A handwritten signature in dark ink, appearing to read "Kath S. Poole". The signature is fluid and cursive, with the first name "Kath" and last name "Poole" clearly distinguishable.

Katherine S. Poole
Senior Attorney, NRDC

A handwritten signature in dark ink, appearing to read "Jon Rosenfield". The signature is highly stylized and cursive, with the first name "Jon" and last name "Rosenfield" clearly distinguishable.

Jon Rosenfield, Ph.D.
Conservation Biologist, The Bay Institute